

21. A device for controlling the delivery of an aerosolized active agent to the lungs of a human patient, said device comprising a flow resistance modulator that provides a high flow resistance of at least $0.4 \text{ (cm H}_2\text{O)}^{1/2} / \text{SLM}$ and subsequently provides a lower flow resistance.

22. A device according to claim 21 wherein the high flow resistance is a resistance of between 0.4 and $2 \text{ (cm H}_2\text{O)}^{1/2} / \text{SLM}$.

23. The device of claim 21 wherein the lower flow resistance is a resistance between 0 and $0.3 \text{ (cm H}_2\text{O)}^{1/2} / \text{SLM}$.

24. The device of claim 21 wherein the high flow resistance corresponds to a flow rate of 15 liters per minute or less.

25. The device of claim 21 wherein the lower flow resistance corresponds to a flow rate of 15-80 liters per minute.

26. The device of claim 21 wherein the high flow resistance is provided for an initial time period of less than 10 seconds.

27. The device of claim 21 wherein the high flow resistance is provided for an initial time period of less than 5 seconds.

28. (new) A device for controlling the delivery of an aerosolized active agent to the lungs of a human patient, said device comprising a flow resistance modulator that provides a high flow resistance which corresponds to a flow rate of about 15 liters per minute or less and subsequently provides a lower flow resistance.

29. (new) The device of claim 28 wherein the lower flow resistance corresponds to a flow rate of between about 15 and 80 liters per minute.

30. (new) The device of claim 28 wherein the high flow resistance is a resistance of between about 0.4 and $2 \text{ (cm H}_2\text{O)}^{1/2} / \text{SLM}$.

31. (new) The device of claim 28 wherein the high flow resistance is provided for an initial time period of less than about 10 seconds.

32. (new) A device for controlling the delivery of an aerosolized active agent to the lungs of a human patient, said device comprising a flow resistance modulator that provides a first flow resistance to provide a first flow rate and subsequently provides a second flow resistance to provide a second flow rate.

a 33. (new) The device of claim 32 wherein the first flow rate is provided for an initial time period of less than about 10 seconds.

34. (new) The device of claim 32 wherein the first flow rate is less than about 15 liters per minute.

35. (new) The device of claim 34 wherein the second flow rate is between about 15 and 80 liters per minute.
